

REMARKS

Claims 3-7 are now pending, wherein claims 1 and 2 have been canceled, claims 3 and 4 have been amended, and claims 5-7 have been added.

Figures 1 and 2 have been amended to include a prior art legend. Accordingly, withdrawal of the drawing objections is respectfully requested.

Claims 1 and 2 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,056,538 to *Büchner et al.* Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Büchner et al.* Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Büchner et al.* in view of U.S. Patent No. 5,489,203 to *Dobbeling et al.*

A disclosed embodiment of the present invention, as defined in independent Claim 5 relates to a burner having an internal space where a fuel-air mixture is produced. The internal space opens with a burner outlet into a combustion chamber. The burner outlet includes edges. A shear layer fence runs along the outer edge essentially adjacent the burner outlet and projects into a combustion chamber with a height substantially parallel to a flow direction of the outflowing fuel-air mixture. The shear layer fence essentially surrounds the outgoing fuel-air mixture. These aspects are recited in independent Claim 5.

In accordance with the burner as defined in independent Claim 5, the combustion process is improved by preventing a periodic release of heat and the associated thermoacoustic oscillations that can occur in the combustion chamber. This improvement is achieved by the arrangement of a shear layer fence at the burner outlet for changing the

thickness of the outflow boundary layer. None of the art of record disclose these patentable features.

In contrast, *Büchner et al.* discloses a burner 2 having a burner outlet where a cylindrical screen 15 is welded on the front side 14 of the combustion chamber 8. See column 5, lines 15-16. The screen 15 has a radial spacing from the burner outlet. See column 5, lines 16-17. According to *Büchner et al.*, the burner outlet is surrounded by a shroud stream outlet, and the screen is radially disposed outwardly of the shroud stream outlet. As such, *Büchner et al.* does not describe a shear layer fence running along the outlet edge essentially adjacent to the burner outlet as defined in independent Claim 5.

In addition, *Büchner et al.* does not disclose the shear layer fence surrounding the outflowing fuel-air mixture, as defined in independent Claim 5. Rather, the screen of *Büchner et al.* surrounds the shroud stream. Accordingly, *Büchner et al.* fails to disclose the patentable features of independent Claim 5.

In addition, Applicants submit that one having ordinary skill in the art would not modify *Büchner et al.* to arrive at the present invention. In particular, *Büchner et al.* describes the application of a shroud stream to prevent ring vortex formation. See column 2, lines 7-12 of *Büchner et al.* According to *Büchner et al.*, the application of the screen 15 acts to preserve the necessary air quality and to provide mixture of hot flue gas into the shroud stream. See column 2, lines 63-65, and column 3, lines 1-3 of *Büchner et al.*. As such, *Büchner et al.* fails to teach or suggest a shear layer fence essentially adjacent to the burner outlet.

For at least the foregoing reasons, it is submitted that the burner of independent Claim 5, and the claims depending therefrom, is patentably distinguishable over the applied document. Accordingly, withdrawal of the rejections of record and allowance of this application are earnestly solicited.

Should any questions arise in connection with this application, or should the Examiner believe a telephone conference would be helpful in resolving any remaining issues pertaining to this application, the undersigned respectfully requests that she be contacted at the number indicated below.

Respectfully submitted,

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Date: September 8, 2003

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